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## REMARKS

This application has been carefully reviewed in light of the Office Action dated January 28, 2004. Claims 265 to 267 are in the application, all of which are independent. Reconsideration and further examination are respectfully requested.

Turning first to formal matters, on page 2, the Office Action required a new oath or declaration because the original declaration was allegedly not signed by the inventors. However, Applicants note that five executed declarations for all of the inventors were submitted with a Response To Notice To File Missing Parts dated June 14, 2001. Copies of all five executed declarations and a copy of a stamped postcard, which indicates the submission of the five declarations with the Response To Notice To File Missing Parts, are included herein. Accordingly, Applicants respectfully submit that the declarations of record satisfy 37 C.F.R 1.67(a), and that no new oath or declaration is required.

In addition, on page 3, the Office Action requested a copy of the certificate of deposit for clone bu45\_2. In response, Applicants submit herewith a copy of such certificate of deposit.

The Amendment dated November 13, 2003 was objected to for adding new matter. Specifically, the Office Action stated that the specification does not indicate an accession number "ATCC 98639". This objection and a related rejection of Claim 265 under 35 U.S.C. § 112, first paragraph, appear to be based on a minor typographical error in Claim 265 in which two numbers were transposed.<sup>1/</sup> Accordingly, Applicants have amended Claim 265 to moot the objection and related § 112, first paragraph, rejection.

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<sup>1/</sup>The accession number "ATCC 98639" should read "ATCC 98369" (emphasis added).

Therefore, withdrawal of the related objection and § 112, first paragraph, rejection is respectfully requested.

Claims 265 to 267 were rejected under 35 U.S.C. § 101 and § 112, first paragraph. According to the Office Action, the claimed invention allegedly is not supported by either a specific and substantial asserted utility or a well-established utility. Consequently, one of skill in the art would not know how to use the invention. The rejections are respectfully traversed.

Applicants respectfully submit that the claimed invention has at least one specific and substantial utility and a well-established utility based on the sequence's similarity in sequence to a number of known nucleotide sequences and also based on the predicted protein's similarity to known proteins. In particular, as indicated in the specification and shown in enclosed Blast results, Applicants found similarity between the sequences of the present invention and sequences with known utility, such that Applicants expect the claimed invention to share activity with the known proteins, see page 113 in the specification.<sup>2/</sup>

As set forth in the utility guidelines published January 5, 2001, a statement of fact made by an applicant in relation to an asserted utility must be treated as true, unless countervailing evidence can be provided that shows that one of ordinary skill in the art would have a legitimate basis to doubt the credibility of such a statement. The specification and Declaration assert similarities to nucleotides and proteins and predict a

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<sup>2/</sup>AA041196 (zf09e05.s1 Soares fetal heart NbHH19W Homo sapiens cDNA clone 376448 3'), AA452391 (zx29c10.r1 Soares total fetus Nb2HF8 9w Homo sapiens cDNA clone 787890 5'), Q61260 (Human brain Expressed Sequence Tag EST01280), R13864 (yf65e05.r1 Homo sapiens cDNA clone 27004 5'), R18560 (yf95b10.r1 Homo sapiens cDNA clone 30142 5), and R99416 (aminopeptidase precursor of *Aeromonas caviae*).

shared activity. The record reflects no evidence that would counter the Applicants' assertions.<sup>3/</sup>

In view of the foregoing, Applicants respectfully request withdrawal of the § 101 rejection and the § 112, first paragraph, rejection relating to how to make and use the present invention.

Claims 265 and 266 were also rejected under § 112, first paragraph, for not containing subject matter that is described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had, at the time the application was filed, had possession of the claimed invention. The rejection is respectfully traversed.

Specifically, on page 6, the Office Action asserted that the specification does not specify the phrase "biological activity" and what functions constitute "biological activity", especially in reference to a fragment of SEQ ID NO: 36. Applicants submit that examples of biological activity are provided on pages 173 to 195 of the specification. In addition, the specification, on lines 13 to 15 of page 166, identifies at least one specific function of such a fragment. Moreover, as pointed out in the Office Action, in lines 3 to 14

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<sup>3/</sup>The Utility Guidelines published January 5, 2001 set forth the standard for establishing a prima facie case for lack of utility. Specifically, the guidelines allow for three different situations which might support a rejection for lack of utility: A) the asserted utility is not specific or substantial; B) the asserted specific and substantial utility is not credible; or C) no specific and substantial utility is disclosed or is well-established. It is not clear on which one of the three bases the Office Action relies.

The Office Action alleged that the present invention is not specific or substantial, leading Applicants to speculate that the rejection might be based on point A). Under point A), a prima facie showing of no specific and substantial utility must establish that a person of ordinary skill in the art would likely not consider that any utility asserted by the applicant would be specific and substantial. In view of the arguments set forth above and the statements of fact provided in the specification, which Office personnel must treat as true, it is clear that Applicants have asserted a specific and substantial utility and well-established utilities are known to exist based on the similarity to known sequences and proteins. Since the Office Action has provided no support for factual findings and no evaluation of utilities taught in the closest prior art, the burden under point A) has not been met.

The Office Action made no mention of the "credibility" of the utility. So, point B) does not apply. Point C) is also not seen to apply since that point provides for the scenario wherein no utility has been asserted.



on page 168, the specification provides guidance on what constitutes a fragment of the present invention. Accordingly, Applicants submit that a fragment of SEQ ID NO: 36 is sufficiently described in the specification, such that a person of ordinary skill in the art would recognize that Applicants were in possession of the claimed invention.

Claims 265 and 266 were rejected under § 112, second paragraph, for alleged indefiniteness. The rejection is respectfully traversed.

Specifically, on page 7, the Office Action indicated that the phrase "having biological activity" in Claim 265 and the phrase "substantially free" in Claim 266 are unclear. However, Applicants submit that such phrases are sufficiently clear to a person of ordinary skill in the art, and that further definitions of the phrases are not required. In addition, with regards to use of the term "substantially", as indicated in M.P.E.P. § 2173.05(c), the Patent Office deems the term "substantially" to be definite.

Accordingly, withdrawal of the § 112, second paragraph, rejection is respectfully requested.

Claims 265 to 266 were rejected under 35 U.S.C. § 102(a) over WO 97/39030 (Jacobs). The rejection is respectfully traversed.

As noted in MPEP § 2132, 35 U.S.C. § 102(a) requires the subject matter upon which the rejection is based to be "by others". In particular, in this instance, a rejection under 35 U.S.C. § 102(a) is improper if the subject matter of Jacobs relied upon in the rejection is the work of same inventive entity as the subject matter of Claims 265 and 266. In order to obviate this basis of rejection, the undersigned hereby states that the disclosure in Jacobs upon which the § 102(a) rejection is founded is the work of the

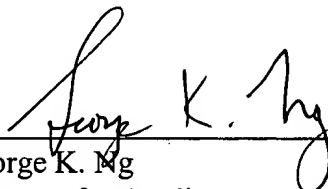
inventors of Claims 265 and 266. Therefore, the § 102(a) rejection is improper because the relied upon subject matter in Jacobs is not the work of "others".

Accordingly, withdrawal of the § 102(a) rejection is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

  
\_\_\_\_\_  
George K. Ng  
Attorney for Applicants  
Registration No. 54,334

FITZPATRICK, CELLA, HARPER & SCINTO  
30 Rockefeller Plaza  
New York, New York 10112-2200  
Facsimile: (212) 218-2200

CA\_MAIN 84126v1



# American Type Culture Collection

12301 Parklawn Drive • Rockville, MD 20852 USA • Telephone: 301-231-5519 or 231-5532 • FAX: 301-816-4366

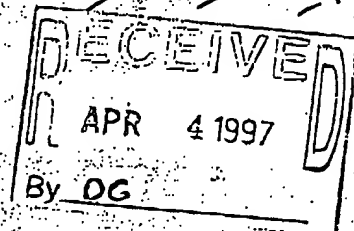
## BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE

### INTERNATIONAL FORM

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT ISSUED PURSUANT TO RULE 7.3  
AND VIABILITY STATEMENT ISSUED PURSUANT TO RULE 10.2

To: (Name and Address of Depositor or Attorney)

Genetics Institute, Inc.  
Attn: Suzanne A. Sprunger, Ph.D.  
87 CambridgePark Drive  
Cambridge, MA 02140



Deposited on Behalf of: Genetics Institute, Inc.

Identification Reference by Depositor:

ATCC Designation

*Escherichia coli* DH10B or DH12S or SURE cells containing: 98369  
pbp783\_3, pbu45\_2, pct864\_4, pdf396\_1, pdh1135\_9, pdn809\_5,  
pej224\_1, pek591\_1, per381\_1, pgq38\_1

The deposit was accompanied by: ☐ a scientific description ☒ a proposed taxonomic description indicated above.

The deposit was received March 21, 1997 by this International Depository Authority and has been accepted.

AT YOUR REQUEST: ☒ We will inform you of requests for the strain for 30 years.

The strain will be made available if a patent office signatory to the Budapest Treaty certifies one's right to receive, or if a U.S. Patent is issued citing the strain, and ATCC is instructed by the United States Patent & Trademark Office or the depositor to release said strain.

If the culture should die or be destroyed during the effective term of the deposit, it shall be your responsibility to replace it with living culture of the same.

The strain will be maintained for a period of at least 30 years from date of deposit, or five years after the most recent request for a sample, whichever is longer. The United States and many other countries are signatory to the Budapest Treaty.

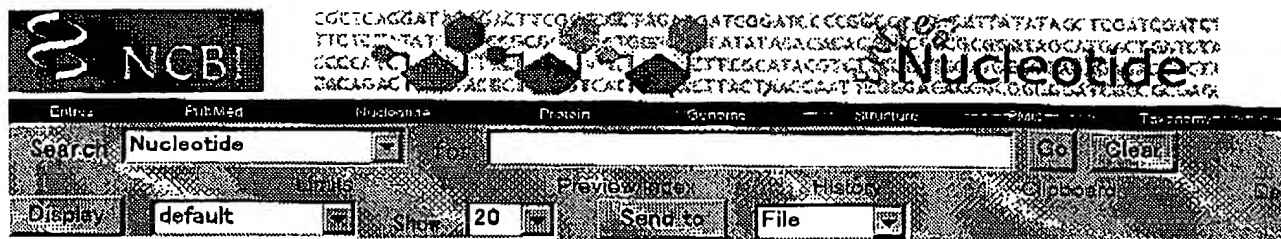
The viability of the culture cited above was tested March 26, 1997. On that date, the culture was viable.

International Depository Authority: American Type Culture Collection, Rockville, Md. 20852 USA

Signature of person having authority to represent ATCC:

Barbara M. Hailey, Administrator, Patent Depository

Date: March 26, 1997

[Links](#)

## IDENTIFIERS

dbEST Id: 657048  
EST name: zf09e05.s1  
GenBank Acc: AA041196  
GenBank gi: 1517611  
GDB Id: 1284704

## CLONE INFO

Clone Id: IMAGE:376448 (3')  
Source: IMAGE Consortium, LLNL  
DNA type: cDNA

## PRIMERS

Sequencing: -40M13 fwd. from Amersham  
PolyA Tail: Unknown

## SEQUENCE

TGATCTTCCAAAAATTTATTAAGTGTTTACTTTTAAAGTGGAACAATGTTTTAAGAGG  
TGATATAAAGAAATGCCCCACTGTAATCCCTACCATATGTTGATTCTATGTGGNGGGAG  
GGAGGGGAGANTGATTCCTTTTCTAGAATCAGAGAATTTGGAAAGTATCAAGAAAGATA  
ATAACAGAAAGCATGAAATAGAGTTGTGCTTTGAAGATGAATTGGATGAAATTGTTATGT  
GAAGAGGAGTTTCCAAAGTTGCAGACCCAGGATTCTGGCCAGAAGCATGAAAACGGTN  
TCTNNNGGACTCGTTTCTAGGACCTAGGCAGCATTCTTCCATGTCTGCAACAACATAAG  
AAACAACAGCCCANACAGCAGCAGCAACATTCATCTGCTTTGGATCCATGACAGTCATGG  
TGTTCCTCG

Quality: High quality sequence stops at base: 399

Entry Created: Aug 30 1996  
Last Updated: Aug 30 1996

## COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium ([info@image.llnl.gov](mailto:info@image.llnl.gov)) for further information.

## LIBRARY

Lib Name: Soares\_fetal\_heart\_NbHH19W  
Organism: Homo sapiens  
Sex: unknown  
Organ: heart  
Develop. stage: 19 weeks  
Lab host: DH10B (ampicillin resistant)  
Vector: pT7T3D (Pharmacia) with a modified polylinker  
R. Site 1: Not I  
R. Site 2: Eco RI  
Description:

1st strand cDNA was primed with a Not I- oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCATCTTTTTTTTTTTTTTTT 3'], double-stranded cDNA was size selected, ligated to Eco RI adapters (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of a modified pT73 vector (Pharmacia). Library went through one round of normalization to a Cot = 5. Library constructed by M.Fatima Bonaldo. This library was constructed from the same fetus as the fetal lung library, Soares fetal lung NbHL19W.

## SUBMITTER

Name: Wilson RK  
Institution: Washington University School of Medicine  
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108

Tel: 314 286 1800  
Fax: 314 286 1810  
E-mail: [est@watson.wustl.edu](mailto:est@watson.wustl.edu)

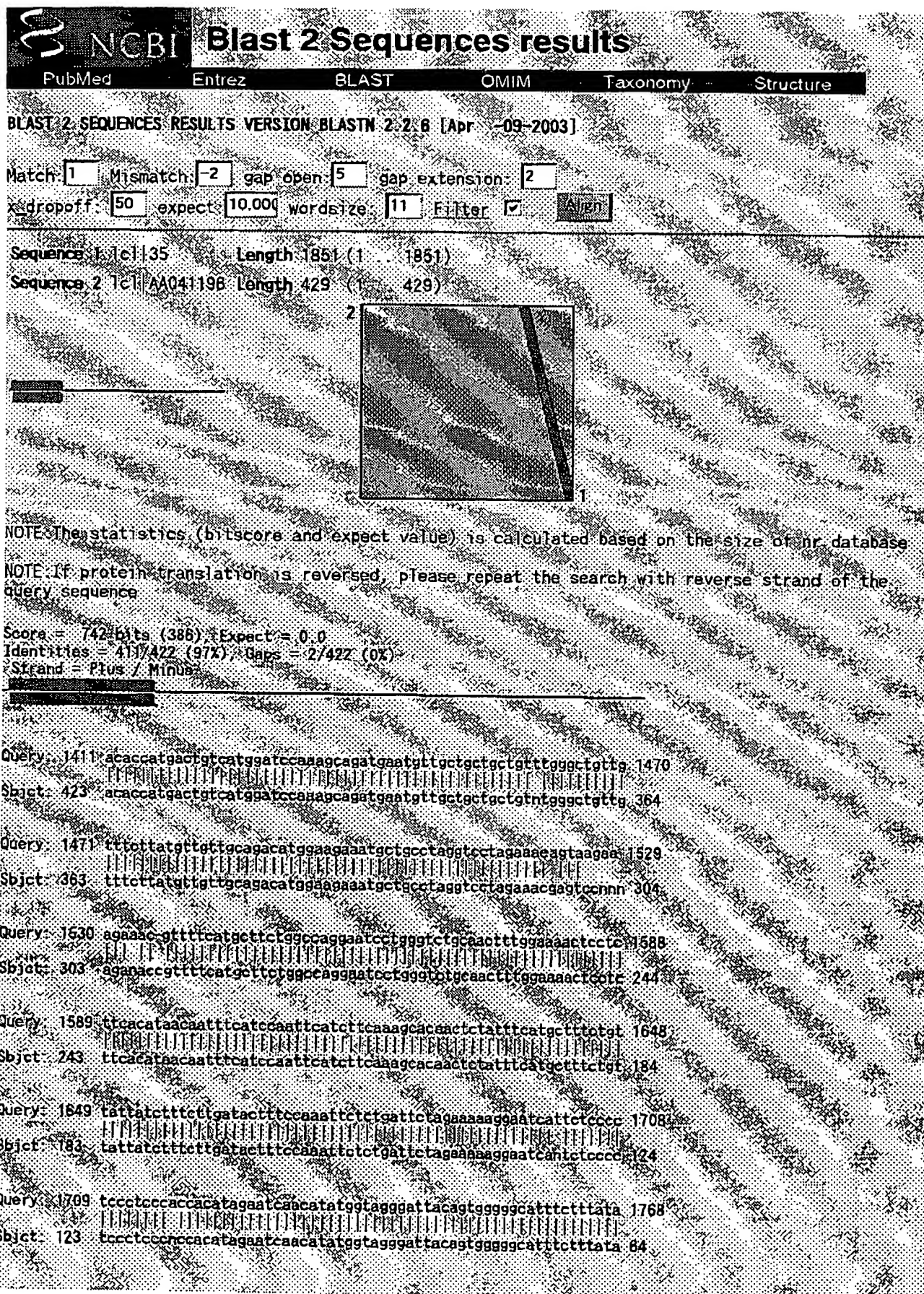
**CITATIONS**

Title: The WashU-Merck EST Project  
Authors: Hillier, L., Clark, N., Dubuque, T., Elliston, K., Hawkins, M.,  
Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marra, M.,  
Parsons, J., Rifkin, L., Rohlfing, T., Soares, M., Tan, F.,  
Trevaskis, E., Waterston, R., Williamson, A., Wohlmann, P.,  
Wilson, R.  
Year: 1995  
Status: Unpublished

**MAP DATA**

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Query: 1769 tcacctcttaaaaacattgtttccactttaaaagtaaacacttaataaatttttggaga 1828

Sbjct: 63 tcacctcttaaaaacattgtttccactttaaaagtaaacacttaataaatttttggaga 4

Query: 1829 to 1830

Sbjct: 3 tc 2

CPU time: 0.04 user secs 0.00 sys secs 0.04 total secs

Lambda K H

1.33 0.621 1.12

Gapped

Lambda K H

1.33 0.621 1.12

Matrix: blastn matrix 1-2

Gap Penalties: Existence: 5, Extension: 2

Number of Hits to DB: 4

Number of Sequences: 0

Number of extensions: 4

Number of successful extensions: 2

Number of sequences better than 10:0:21

Number of HSP's better than 10:0 without gapping: 1

Number of HSP's successfully gapped in prelim test: 0

Number of HSP's that attempted gapping in prelim test: 0

Number of HSP's gapped (non-prelim): 1

Length of query: 185

Length of database: 10,578,218,764

effective HSP length: 26

effective length of query: 1825

effective length of database: 10,578,218,738

effective search space: 19305249196850

effective search space used: 19305249196850

10:0

A: 0.00

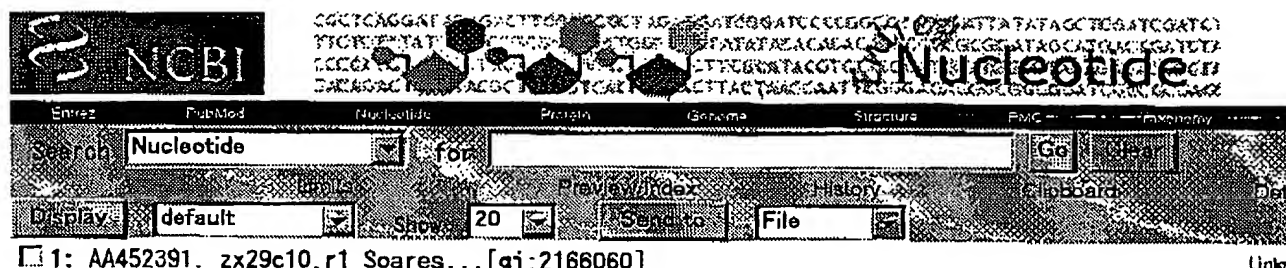
X1: 6 (17.5 bits)

X2: 26 (50.0 bits)

S1: 12 (23.8 bits)

S2: 21 (41.1 bits)





1: AA452391. zx29c10.r1 Soares...[gi:2166060] [Links](#)

## IDENTIFIERS

dbEST Id: 1096890  
 EST name: zx29c10.r1  
 GenBank Acc: AA452391  
 GenBank gi: 2166060  
 GDB Id: 5985507

## CLONE INFO

Clone Id: IMAGE:787890 (5')  
 Source: IMAGE Consortium, LLNL  
 DNA type: cDNA

## PRIMERS

Sequencing: -28m13 rev2 ET from Amersham  
 PolyA Tail: Unknown

## SEQUENCE

CAAGATTCCAACAGCCTGTATTACGGTGGGAAGATGCAGAAATGATGTCAAGAATGGCTTC  
 TCATGGGATCAAAATTGTCAATTCAGCTAAAGATGGGGGCAAGACCTACCCAGATACTGA  
 TTCCTTCAACACTGTAGCAGAGATCACTGGGAGCAAATATCCAGAACAGGTTGTACTGGT  
 CAGTGGACATCTGGACAGCTGGGATGTTGGGCAGGGTGCATGGATGATGGCGGTGGAGCC  
 TTTATATCATGGGAAGCACTCTCACTTATTAAGATCTTGGGCTGCGTCCAAAGAGGACT  
 CTGCGGCTGGTGCTCTGGACTGCAGAAAGAACAAGGTGGAGTTGGTGCCTTCCAGTATTAT  
 CAGTTACACAAGGTAATATTTCCAACACAGTCTGGTGTATGGAGTCTGACGCAGGAACC  
 TTCTTACCCACTGGGCTGCAATTCACTGGCAGTGAAGGCCAGGGCCATCATGGAGGAG  
 GTTATGAGCCTGCTGCAGCCCTC

Quality: High quality sequence stops at base: 472

Entry Created: Jun 5 1997  
 Last Updated: Jun 5 1997

## COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium ([info@image.llnl.gov](mailto:info@image.llnl.gov)) for further information.

## LIBRARY

Lib Name: Soares\_total\_fetus\_Nb2HF8\_9w  
 Organism: Homo sapiens  
 Develop. stage: 8-9 weeks  
 Lab host: DH10B  
 Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker  
 R. Site 1: Not I  
 R. Site 2: Eco RI  
 Description: 1st strand cDNA was prepared from mRNA obtained from pooled 8-9 week (total) fetus material with a Not I- oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCTTAATTTTTTTTTTTTTTTTTT 3']. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization, and was constructed by Bento Soares and M. Fatima Bonaldo.

## SUBMITTER

Name: Wilson RK  
 Institution: Washington University School of Medicine  
 Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
 Tel: 314 286 1800



Fax: 314 286 1810  
E-mail: [est@watson.wustl.edu](mailto:est@watson.wustl.edu)

**CITATIONS**

Title: WashU-Merck EST Project 1997  
Authors: Hillier, L., Allen, M., Bowles, L., Dubuque, T., Geisel, G., Jost, S., Kucaba, T., Lacy, M., Le, N., Lennon, G., Marra, M., Martin, J., Moore, B., Schellenberg, K., Steptoe, M., Tan, F., Theising, B., White, Y., Wylie, T., Waterston, R., Wilson, R.  
Year: 1997  
Status: Unpublished

**MAP DATA**

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05/20/2004 07:43:11

**NCBI Blast 2 Sequences results**

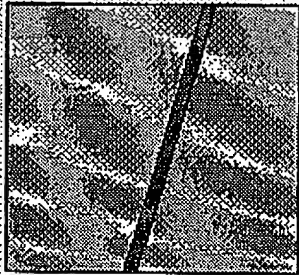
PubMed Entrez BLAST OMIM Taxonomy Structure

BLAST 2 SEQUENCES RESULTS VERSION: BLASTN 2.2.6 [Apr -09-2003]

Match:  Mismatch:  gap open:  gap extension:   
 x\_dropoff:  expect:  wordsize:  Filter ☒ 

---

Sequence 1 [1c1](#) [35] Length 1851 (1 - 1851)  
 Sequence 2 [1c1](#) AA452391 Length 504 (1 - 504)



NOTE: The statistics (bitscore and expect value) is calculated based on the size of hr database  
 NOTE: If protein translation is reversed, please repeat the search with reverse strand of the query sequence

Score = 950 bits (494) Expect = 0.0  
 Identities = 503/505 (99%) Gaps = 1/505 (0%)  
 Strand = Plus/Plus

---

Query: 779 caaaattccacagcctgtattacggtggaagatgcagaaatgatgtcaagaatggcttc 838  
 Sbjct: 1 caaattccacagcctgtattacggtggaagatgcagaaatgatgtcaagaatggcttc 60

Query: 839 tcattggatcaaaattgtcattcagctaaagatggggcacaagacctaccagatactga 898  
 Sbjct: 61 tcattggatcaaaattgtcattcagctaaagatggggcacaagacctaccagatactga 120

Query: 899 ttcttcaacactgtacagagatcaatgggagcaaatatccagaacaggttgactggt 958  
 Sbjct: 121 ttcttcaacactgtacagagatcaatgggagcaaatatccagaacaggttgactggt 180

Query: 959 cagtgacatctggacagctgggatgttgggcagggtgccatggatgatggcggtagc 1018  
 Sbjct: 181 cagtgacatctggacagctgggatgttgggcagggtgccatggatgatggcggtagc 239

Query: 1019 cttatatcatgggaagcactctcacttattaagatcttgggtcgctccaagaggac 1078  
 Sbjct: 240 cttatatcatgggaagcactctcacttattaagatcttgggtcgctccaagaggac 299

Query: 1079 tctggcgttggtgctctggactgcagaagaacaaggatggagttggttccttcagatt 1138  
 Sbjct: 300 tctggcgttggtgctctggactgcagaagaacaaggatggagttggttccttcagatt 359

Query: 1139 tcagttacacaaggttaaatatttccaactacagtcctggatggagctcgacgcaggaac 1198

Subject: 360 tcagttacacaaggttaaatatttccaactacagtcctggatggagctcgacgcaggaac 419

Query: 1199 ctctttaccactgggctgcaattcactggcagtgaaaaggccaggccatcatggagga 1258

Subject: 420 ctctttaccactgggctgcaattcactggcagtgaaaaggccaggccatcatggagga 479

Query: 1259 gggtatgagcctgctgcagccctc 1283

Subject: 480 gggtatgagcctgctgcagccctc 504

CPU time: 0.01 user secs. 0.00 sys. secs. 0.01 total secs

Lambda K H  
1.33 0.621 1.12

Gapped  
Lambda K H  
1.33 0.621 1.12

Matrix: blastn matrix 1-2

Gap Penalties: Existence: 5, Extension: 2

Number of Hits to DB: 2

Number of Sequences: 0

Number of Extensions: 2

Number of successful extensions: 2

Number of sequences better than 10.0: 1

Number of HSP's better than 10.0 without gapping: 1

Number of HSP's successfully gapped in prelim test: 0

Number of HSP's that attempted gapping in prelim test: 0

Number of HSP's gapped (non-prelim): 1

length of query: 1851

length of database: 10,578,218,764

effective HSP length: 26

effective length of query: 1825

effective length of database: 10,578,218,738

effective search space: 19305249196850

effective search space used: 19305249196850

T: 0

A: 0

X1: 6 (11.5 bits)

X2: 28 (50.0 bits)

S1: 12 (23.8 bits)

S2: 21 (41.1 bits)

ID AAQ61260 standard; DNA; 394 BP.  
 XX  
 AC AAQ61260;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 16-MAR-1994 (first entry)  
 XX  
 DE Human brain Expressed Sequence Tag EST01280.  
 XX  
 KW Gene transcription product; genetic markers; tagging; in vivo;  
 KW transcription; mapping; locations; chromosomes; chromosomal; ss.  
 XX  
 OS Homo sapiens.  
 XX  
 PN W09316178-A2.  
 XX  
 PD 19-AUG-1993.  
 XX  
 PF 12-FEB-1993; 93W0-US001294.  
 XX  
 PR 12-FEB-1992; 92US-00837195.  
 XX  
 PA (USSH ) US DEPT HEALTH & HUMAN SERVICE.  
 XX  
 PI Venter CJ, Adams MD, Moreno RF;  
 XX  
 DR WPI; 1993-272882/34.  
 XX  
 PT Enriched oligonucleotides and corresp. sequences- used as markers for  
 PT human genes transcribed in-vivo, facilitate tagging of most human genes.  
 XX  
 PS Example 4; Page 463; 500pp; English.  
 XX  
 CC The Expressed Sequence Tag was isolated from a human brain cDNA library  
 CC as part of a large set of ESTs which can be used as markers for human  
 CC genes transcribed in vivo. They can be used to facilitate tagging of most  
 CC human genes, for mapping locations of expressed genes on chromosomes, for  
 CC individual or forensic identification, for mapping locations of disease  
 CC associated genes, for identification of tissue type, and for prepn. of  
 CC antisense sequences, probes and constructs. EST01280 has a "poor" coding  
 CC probability as evaluated using the codingregion prediction program CRM.  
 CC See also AAQ59041-Q61440. (Updated on 25-MAR-2003 to correct PN field.)  
 XX  
 SQ Sequence 394 BP; 128 A; 67 C; 88 G; 110 T; 0 U; 1 Other;  
 tttaaagtgg aaacaatggt ttttaagaggt gatataaaga aatgccccca ctgtaatccc 60  
 taccatatgt tgattctatg tgggtgggagg gaggggagaa tgattccttt ttctagaatc 120  
 agagaatttg gaaagtatca agaaagataa taacagaaaag catgaaatag agttgtgctt 180  
 tgaagatgaa ttggatgaaa ttnttatgtg aagaggagtt ttccaaagtt gcagacccag 240  
 gattctctggc cagaagcatg aaaacgtttc tttcttactg tttctaggac ctaggcagca 300  
 tttcttccat gtctgcaaca acataagaaa caacagccca aacagcagca gcaacattca 360  
 tctgctttgg atcccatgga cagtcattgt gtct 394



# NCBI Blast 2 Sequences results

PubMed

Entrez

BLAST

OMIM

Taxonomy

Structure

BLAST 2 SEQUENCES RESULTS VERSION BLASTN 2.2.8 [Apr -09-2003]

Match:  Mismatch:  gap open:  gap extension:   
 x\_dropoff:  expect:  wordsize:  Filter ☒ Align

Sequence 1 |c|35 Length 1851 (1 1851)

Sequence 2 |c|AAQ81260 Length 394 (1 394)



NOTE: The statistics (bitscore and expect value) is calculated based on the size of nr database

NOTE: If protein translation is reversed, please repeat the search with reverse strand of the query sequence

Score = 723 bits (376), Expect = 0.0  
 Identities = 391/394 (99%), Gaps = 2/394 (0%)  
 Strand = Plus/Minus

Query: 1409 agacaccatgactatc atgg atccaaagcagatgaatgttctgctgctgtttgggt 1466

Sbjct: 394 agacaccatgactatgcatggatccaaagcagatgaatgttctgctgctgtttgggt 335

Query: 1467 gtgtttctttatgtttgttcagacatggaagaatgctgcttaggtcctagaacagtaa 1526

Sbjct: 334 gtgtttctttatgtttgttcagacatggaagaatgctgcttaggtcctagaacagtaa 275

Query: 1527 gaaagaaacgttttcatgtttctggccaggaaatctgggtctgcaactttgaaanaactcc 1586

Sbjct: 274 gaaagaaacgttttcatgtttctggccaggaaatctgggtctgcaactttgaaanaactcc 215

Query: 1587 ttttcacataaacattttcatccaattcatcttcaagcacaactotatttcatgttttt 1646

Sbjct: 214 ttttcacataaacattttcatccaattcatcttcaagcacaactotatttcatgttttt 155

Query: 1647 gtattatctttcttgatactttccaaattctctgattctagaaaagggaatcattctcc 1706

Sbjct: 154 gtattatctttcttgatactttccaaattctctgattctagaaaagggaatcattctcc 95

Query: 1707 cctccctccaccacatagaatcaacataggtagggtattacagtggggcatttcttta 1766

Sbjct: 94 cctccctccaccacatagaatcaacataggtagggtattacagtggggcatttcttta 35

Query: 1767 tatcacctcttataaaacattgtttccactttaaa 1800

Subject: 34 tatcacctcttataaaacattgtttccactttaaa

CPU time: 0.01 user secs. 0.00 sys secs 0.01 total secs

Lambda K H  
1.33 0.621 1.12

Gapped  
Lambda K H  
1.33 0.621 1.12

Matrix: blastn matrix 1-2

Gap Penalties: Existence: 5, Extension: 2

Number of Hits to DB: 3

Number of Sequences: 0

Number of extensions: 3

Number of successful extensions: 2

Number of sequences better than 10.0: 1

Number of HSP's better than 10.0 without gapping: 1

Number of HSP's successfully gapped in prelim test: 0

Number of HSP's that attempted gapping in prelim test: 0

Number of HSP's gapped (non-prelim): 1

Length of query: 1851

Length of database: 10,591,685,040

effective HSP length: 26

effective length of query: 1825

effective length of database: 10,591,685,014

effective search space: 19329825150550

effective search space used: 19329825150550

T: 0

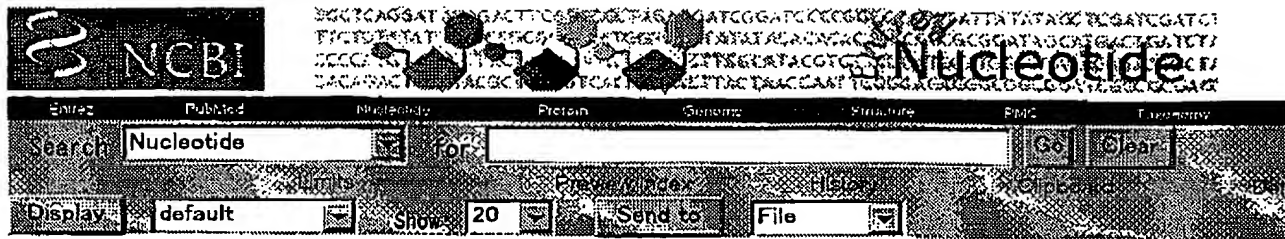
A: 0

X1: 6 (11.5 bits)

X2: 26 (50.0 bits)

S1: 12 (23.8 bits)

S2: 21 (41.1 bits)



The image shows the NCBI Nucleotide sequence viewer interface. At the top, there's a navigation bar with tabs for Entrez, Pubmed, Nucleotide, Protein, Genes, Structure, PDB, and Tracdb. Below this is a search bar with 'Nucleotide' entered and a 'Go' button. There are also buttons for 'Display', 'Show', 'Send to', and 'File'. The main content area displays a sequence identifier: '1: R13884. yf65e05.r1 Soares... [gi:766940]'. To the right of the identifier is a 'Links' button. The sequence itself is shown in a monospaced font, with a 'Nucleotide' label above it.

[Links](#)**IDENTIFIERS**

dbEST Id: 184443  
EST name: yf65e05.r1  
GenBank Acc: R13884  
GenBank gi: 766940  
GDB Id: 399351

**CLONE INFO**

Clone Id: IMAGE:27004 (5')  
Insert length: 1740  
DNA type: cDNA

**PRIMERS**

Sequencing: M13RP1  
PolyA Tail: Unknown

**SEQUENCE**

```
CGGTGGTGTTCACCTTTTATCCCTGTGCTCTGGGAAAGCTATATGCAAGAATGGCATCTC
TAAGAGGACTTTTGAAGAAATAAAGAAGAAATAGCCAGCTGTGGAGATGTTGCTAAAGC
AATCATCAACCTAGCTGTTTATGGTAAAGCCCAGAACAGATCCTATGAGCGATTGGCACT
TCTGGTTGATACTGTTGGACCCAGACTGAGTGGCTCCAAGAACCTAGAAAAAGCCATCCA
AATTATGTACCAAAACCTGCAGCAAGATGGGCTGGAGAAAGTTACCTGGGAGCCAGTGA
GGATACCCCACTGGGAGAGGGGAGAAGAATCAGCTGTGATGCTGGGAGCCAAGGATTTCA
TAAGGNTAGGCCATCCTGGGGTCTTTGGCAGCCAGCATTTGGGACTCCTTCNGGAAGGG
CTTTACAGCAGNAGTTTTTGGTNGGTGACCCCTTTTGGNTAACTGCCGGNGAAGGGGCC
TCCGNAGGCAGG
```

Quality: High quality sequence stops at base: 284

Entry Created: Apr 12 1995  
Last Updated: Apr 12 1995

**COMMENTS**

Insert Size: 1740  
High quality sequence stops: 284 Source: IMAGE Consortium,  
LLNL This clone is available royalty-free through LLNL ;  
contact the IMAGE Consortium ([info@image.llnl.gov](mailto:info@image.llnl.gov)) for  
further information.

**LIBRARY**

Lib Name: Soares infant brain 1N1B  
Organism: Homo sapiens  
Sex: female  
Organ: whole brain  
Develop. stage: 73 days post natal  
Lab host: DH10B (ampicillin resistant)  
Vector: Lafmid BA  
R. Site 1: Not I  
R. Site 2: Hind III  
Description: 1st strand cDNA was primed with a Not I- oligo(dT) primer  
[5' AACTGGAAGAATCGCGCCGAGGAATTTTTTTTTTTTTTTTTT 3'];  
double-stranded cDNA was ligated to Hind III adaptors  
(Pharmacia), digested with Not I and directionally cloned  
into the Not I and Hind III sites of the Lafmid BA vector.  
Library went through one round of normalization. Library  
constructed by Bento Soares and M.Fatima Bonaldo.

**SUBMITTER**

Name: Wilson RK  
Institution: Washington University School of Medicine

Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
Tel: 314 286 1800  
Fax: 314 286 1810  
E-mail: [est@watson.wustl.edu](mailto:est@watson.wustl.edu)

**CITATIONS**

Title: The WashU-Merck EST Project  
Authors: Hillier, L., Clark, N., Dubuque, T., Elliston, K., Hawkins, M.,  
Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marra, M.,  
Parsons, J., Rifkin, L., Rohlfing, T., Soares, M., Tan, F.,  
Trevaskis, E., Waterston, R., Williamson, A., Wohldmann, P.,  
Wilson, R.  
Year: 1995  
Status: Unpublished

**MAP DATA**

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[NCBI](#) | [NLM](#) | [NIH](#)



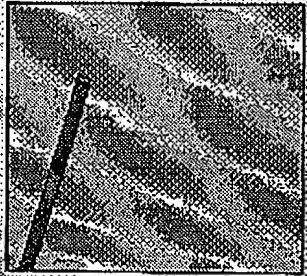
**NCBI Blast 2 Sequences results**

PubMed Entrez BLAST OMIM Taxonomy Structure

BLAST 2 SEQUENCES RESULTS VERSION: BLASTN 2.2.6 [Apr -09-2003]

Match:  Mismatch:  gap open:  gap extension:   
X-dropoff:  expect:  wordsize:  Filter: ☒ Align:

Sequence 1:  35 Length: 1851 (1..1851)  
Sequence 2:  R13864 Length: 492 (1..492)



NOTE: The statistics (bitscore and expect value) is calculated based on the size of nr database  
NOTE: If protein translation is reversed, please repeat the search with reverse strand of the query sequence

Score = 644 bits (335), Expect = 0.0  
Identities = 353/357 (98%), Gaps = 2/357 (0%)  
Strand = Plus / Plus

Query: 125 cggtggtgttccactttttatccctgtgctctgggaagctatatgcaagaatggcatctc 184  
Sbjct: 1 cggtggtgttccactttttatccctgtgctctgggaagctatatgcaagaatggcatctc 60

Query: 185 taagaggacttttgaagaaataaaagaagaaatagccagctgtggagatgttgctaaagc 244  
Sbjct: 61 taagaggacttttgaagaaataaaagaagaaatagccagctgtggagatgttgctaaagc 120

Query: 245 aatcatcaacotagctgtttatgttaagccagaaacagatcctatgagcgattggcact 304  
Sbjct: 121 aatcatcaacotagctgtttatgttaagccagaaacagatcctatgagcgattggcact 180

Query: 305 tctggttgatactgttggaccagactgagtggtccagaacctagaaaaagccatcca 364  
Sbjct: 181 tctggttgatactgttggaccagactgagtggtccagaacctagaaaaagccatcca 240

Query: 365 aattatgtaccaaaacctgcagcaagatgggctggagaaagttcacctggagccagtga 423  
Sbjct: 241 aattatgtaccaaaacctgcagcaagatgggctggagaaagttcacctggagccagtga 300

Query: 424 gaataccccactgggagaggggagagaatcagctgtgatgctggagccaagaatt 479  
Sbjct: 301 gaataccccactgggagaggggagagaatcagctgtgatgctggagccaagaatt 357

CPU time: 0.03 user secs, 0.00 sys secs, 0.03 total secs

Lambda K H  
1.33 0.621 1.12

Gapped  
Lambda K H  
1.33 0.621 1.12

Matrix: blastn matrix 1-2

Gap Penalties: Existence: 5, Extension: 2

Number of Hits to DB: 6

Number of Sequences: 0

Number of extensions: 6

Number of successful extensions: 3

Number of sequences better than 10.0: 1

Number of HSP's better than 10.0 without gapping: 1

Number of HSP's successfully gapped in prelim test: 0

Number of HSP's that attempted gapping in prelim test: 0

Number of HSP's gapped (non-prelim): 2

Length of query: 1851

length of database: 10,578,218,764

effective HSP length: 26

effective length of query: 1825

effective length of database: 10,578,218,738

effective search space: 19305249196850

effective search space used: 19305249196850

T: 0

A: 0

X1: 6 (11.5 bits)

X2: 26 (50.0 bits)

S1: 12 (23.8 bits)

S2: 21 (41.1 bits)

NCBI Nucleotide

Search Nucleotide for [ ] Go Clear

Display default Show 20 Send to File

[1: R18560. yf95b10.r1 Soares...[gi:772170]

Link

# IDENTIFIERS

dbEST Id: 188354  
 EST name: yf95b10.r1  
 GenBank Acc: R18560  
 GenBank gi: 772170  
 GDB Id: 402489

# CLONE INFO

Clone Id: IMAGE:30142 (5')  
 Insert length: 1879  
 DNA type: cDNA

# PRIMERS

Sequencing: M13RP1  
 PolyA Tail: Unknown

# SEQUENCE

TGAAATTCCTTATCTTCGCATTTTTCGGTGGTGTTACCTTTTATCCCTGTGCTCTGGGA  
 AAGCTATATGCAAGATGGCATCTCTAAGAGGACTTTTGAAGAAATAAAGAAGAAATAG  
 CCAGCTGTGGAGATGTTGCTAAAGCAATCATCAACCTAGCTGTTTATGGTAAAGCCAGA  
 ACAGATCCTATGAGCGATTGGCACTTCTGGTTGATACTGTTGGACCCAGACTGAGTGGCT  
 CCAAGAACCTAGGAAAAAGCCATCCAAATTATGTACCAAAACCTGGCAGGCAAGATGGGG  
 CTGGGAGGAAAGTTTACCTGGGAGCCAGTGAGGAATACCCACTGGGGAGGAGGGGGGA  
 GAAGGATNCAGCTGTTGATNGCTGGGAGCCCAAGGATTTCAATTAAGGTTAGGCCNTCCTG  
 GGGTCTTTTGGCCAGCCAGCNTTTGGG

Quality: High quality sequence stops at base: 331

Entry Created: Apr 14 1995  
 Last Updated: Apr 14 1995

# COMMENTS

Insert Size: 1879  
 High quality sequence stops: 331 Source: IMAGE Consortium,  
 LLNL This clone is available royalty-free through LLNL ;  
 contact the IMAGE Consortium ([info@image.llnl.gov](mailto:info@image.llnl.gov)) for  
 further information.

# LIBRARY

Lib Name: Soares infant brain 1N1B  
 Organism: Homo sapiens  
 Sex: female  
 Organ: whole brain  
 Develop. stage: 73 days post natal  
 Lab host: DH10B (ampicillin resistant)  
 Vector: Lafmid BA  
 R. Site 1: Not I  
 R. Site 2: Hind III  
 Description: 1st strand cDNA was primed with a Not I- oligo(dT) primer  
 [5' AACTGGAAGAATTGCGGCGCCGAGGAATTTTTTTTTTTTTTTTTT 3'];  
 double-stranded cDNA was ligated to Hind III adaptors  
 (Pharmacia), digested with Not I and directionally cloned  
 into the Not I and Hind III sites of the Lafmid BA vector.  
 Library went through one round of normalization. Library  
 constructed by Bento Soares and M.Fatima Bonaldo.

# SUBMITTER

Name: Wilson RK  
 Institution: Washington University School of Medicine  
 Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108

Tel: 314 286 1800  
 Fax: 314 286 1810  
 E-mail: [est@watson.wustl.edu](mailto:est@watson.wustl.edu)

**CITATIONS**

Title: The WashU-Merck EST Project  
 Authors: Hillier, L., Clark, N., Dubuque, T., Elliston, K., Hawkins, M.,  
 Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marra, M.,  
 Parsons, J., Rifkin, L., Rohlfing, T., Soares, M., Tan, F.,  
 Trevaskis, E., Waterston, R., Williamson, A., Wohlmann, P.,  
 Wilson, R.  
 Year: 1995  
 Status: Unpublished

**MAP DATA**

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 NCBI | NLM | NIH

NCBI Sequence Viewer



**NCBI** **Blast 2 Sequences results**

PubMed Entrez BLAST OMIM Taxonomy Structure

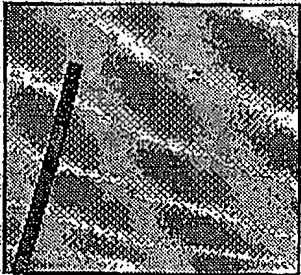
BLAST 2 SEQUENCES RESULTS VERSION: BLASTN 2.2.6 [Apr 10-09-2003]

Match:  Mismatch:  gap open:  gap extension:   
x\_dropoff:  expect:  wordsize:  Filter ☒ Align

---

Sequence 1:  Length: 1851 (1 - 1851)  
Sequence 2:  Length: 447 (1 - 447)

2



NOTE: The statistics (bitscore and expect value) is calculated based on the size of nr database.  
NOTE: If protein translation is reversed, please repeat the search with reverse strand of the query sequence.

Score = 544 bits (283), Expect = e-151  
Identities = 338/348 (97%), Gaps = 9/348 (2%)  
Strand = Plus / Plus

---

Query: 100 tgaattccttattcttcgaatttttcggtggtgttcacattttatccctgtgctctggga 159  
Sbjct: 1 tgaattccttattcttcgaatttttcggtggtgttcacattttatccctgtgctctggga 60

Query: 160 aagctatatgcaagaatggcatctctaagaggactttgaagaataaangaagaatag 219  
Sbjct: 61 aagctatatgcaagaatggcatctctaagaggactttgaagaataaangaagaatag 120

Query: 220 ccagctgtggagatgttgctaaagcaatcatcaacctagctgtttatggtaaagccaga 279  
Sbjct: 121 ccagctgtggagatgttgctaaagcaatcatcaacctagctgtttatggtaaagccaga 180

Query: 280 acagatccctatgagcgattggcacttctggttgatactgttgaccagactgagtagct 339  
Sbjct: 181 acagatccctatgagcgattggcacttctggttgatactgttgaccagactgagtagct 240

Query: 340 ccaagaacctg-gaaaaagccatcraattatgtaccaaaacct-gca-gcaagat-agg 395  
Sbjct: 241 ccaagaacctaggaaagccatccaatatgtaccaaaacctggcaggcaagatgggg 300

Query: 396 ctgg-agaaggtcacct-ggagccagtg-gaatacccccactggg 438  
Sbjct: 301 ctggagggaaggtcacctggggagccagtgagggaatacccccactggg 348

CPU time: 0.02 user secs, 0.00 sys. secs, 0.02 total secs

Lambda: K H  
1.33 0.621 1.12

Gapped  
Lambda: K H  
1.33 0.621 1.12

Matrix: blastn matrix 1-2

Gap Penalties: Existence: 5, Extension: 2

Number of Hits to DB: 7

Number of Sequences: 0

Number of extensions: 7

Number of successful extensions: 4

Number of sequences better than 10.0: 1

Number of HSP's better than 10.0 without gapping: 1

Number of HSP's successfully gapped in prelim test: 0

Number of HSP's that attempted gapping in prelim test: 0

Number of HSP's gapped (non-prelim): 1

length of query: 1851

length of database: 10,578,218,764

effective HSP length: 26

effective length of query: 1825

effective length of database: 10,578,218,738

effective search space: 19305249196850

effective search space used: 19305249196850

T: 0

A: 0

X1: 6 (11.5 bits)

X2: 26 (50.0 bits)

S1: 12 (23.8 bits)

S2: 21 (41.1 bits)

ID AAR99416 standard; protein; 393 AA.  
 XX  
 AC AAR99416;  
 XX  
 DT 16-OCT-2003 (revised)  
 DT 04-DEC-1996 (first entry)  
 XX  
 DE Aminopeptidase precursor of *Aeromonas caviae*, useful in food mfr.  
 XX  
 KW Aminopeptidase; hydrophobic amino acid removal; hydrolysis;  
 KW food manufacture; improved taste.  
 XX  
 OS *Aeromonas punctata*; F-64.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 121..393  
 FT /label= mat\_peptide  
 XX  
 PN JP08173168-A.  
 XX  
 PD 09-JUL-1996.  
 XX  
 PF 26-DEC-1994; 94JP-00336663.  
 XX  
 PR 26-DEC-1994; 94JP-00336663.  
 XX  
 PA (NORQ ) NORINSUISANSHO SHOKUJIN SOGO.  
 PA (ZENK-) ZENKOKU RAKUNOGYO KYODO KUMIAI RENGOKAI.  
 XX  
 DR WPI; 1996-365587/37.  
 DR N-PSDB; AAT41568.  
 XX  
 PT DNA encoding aeromonas microorganism derived aminopeptidase- which  
 PT eliminates bitter tastes by decomposing peptide(s) rich in hydrophobic  
 PT amino acids produced by protein hydrolysis, useful in food mfg.  
 XX  
 PS Claim 1; Page 5-7; 12pp; Japanese.  
 XX  
 CC AAR99416 is an amino peptidase precursor from *Aeromonas caviae*. The  
 CC peptidase is useful in the hydrolysis of peptides high in hydrophobic  
 CC amino acids, this is useful in food manufacture as such peptides have a  
 CC bitter taste. The aminopeptidase removes amino acids sequentially from  
 CC the N-terminus of a peptide at an optimum reaction temperature of 50 deg.  
 CC C. and a pH of between 8 and 10. (Updated on 16-OCT-2003 to standardise  
 CC OS field)  
 XX  
 SQ Sequence 393 AA;  
 SQ 49 A; 15 R; 12 N; 20 D; 0 B; 3 C; 28 Q; 14 E; 0 Z; 31 G; 10 H;  
 SQ 14 I; 44 L; 11 K; 7 M; 8 F; 21 P; 34 S; 26 T; 6 W; 17 Y; 23 V;  
 SQ 0 Others;  
 mkplltalll plslaaqaa epvwtvgad sgvelkqvka rlaplfeasg apiqlaqvea 60  
 selgtlshlm heghqrcggy vvhstladal qsmagpisqn lfsappltqg asvnrllpyl 120  
 dqgnivgtis qlaswrnryy ttttgvsad wvaggwqsls atlpwasver vkhsqypqqs 180  
 vvtlkgstry pdevvlggh ldstagsapn srtlapgadd dasgiatlte vlrviaeqgr 240  
 qpertlqfig yaeeevlrg skdiatryka antkvlaalq ldmtnyqssa edivfmdtyt 300  
 dqqltgylaq lldaylpqir ygydscgygc sdhaswhnqg ypaampfesr fndynpkiht 360  
 aqdtlqnsdp saahalkfaq latsfaiemg kin 393



# NCBI Blast 2 Sequences results

PubMed

Entrez

BLAST

OMIM

Taxonomy

Structure

BLAST 2 SEQUENCES RESULTS VERSION BLASTP 2.2.6 [Apr -09-2003]

Matrix: BLOSUM62 gap open: 11 gap extension: 1  
x\_dropoff: 50 expect: 10.000 wordsize: 3 Filter: ☒ Align

Sequence 1 |c1|35.p.frame3 Length 472 (1 .. 472)

Sequence 2 |c1|AAR99416 Length 393 (1 .. 393)



NOTE: The statistics (bitscore and expect value) is calculated based on the size of nr database

Score = 53.1 bits (126), Expect = 2e-05

Identities = 29/78 (37%), Positives = 44/78 (56%), Gaps = 8/78 (10%)

Query: 270 MTVAEITGSKYPEQVVLVSGHLDV-----DVGGGAMDDGGGAFISWEAESLIKDLG 321  
+V...+GS+YPI+VY...+GHLD...+GA DD...E L+I+G

Subject: 180 SVVTEKGSRYPDENVVLEGHLDSTAGSAPNSRTLAPGADDASGIATLFEVLRVIAEQG 238

Query: 322 LRPKRTLRVLVWTAEEQG 339

+P+RTL...+AEE G

Subject: 240 ROPERTLOFIGYAAEEVG 257

CPU time: 0.03 user secs 0.00 sys secs 0.03 total secs

Lambda K H  
0.318 0.135 0.391

Gapped  
Lambda K H  
0.267 0.040 0.140

Matrix: BLOSUM62

Gap Penalties: Existence: 11 Extension: 1

Number of Hits to DB: 1219

Number of Sequences: 0

Number of extensions: 91

Number of successful extensions: 21

Number of sequences better than 10.0: 1

Number of HSP's better than 10.0 without gapping: 1

Number of HSP's successfully gapped in prelin test: 0

Number of HSP's that attempted gapping in prelin test: 0

Number of HSP's gapped (nonprelin): 0

length of query: 472

length of database: 606,866,553

effective HSP length: 133

effective length of query: 339

effective length of database: 606,866,420

effective search space: 20572716380



effective search space used: 20572716380

T: 9

A: 40

X1: 16 (7.3 bits)

X2: 129 (49.7 bits)

X3: 129 (49.7 bits)

S1: 41 (21.7 bits)

S2: 77 (34.3 bits)

Office No. GIN-6046CP

**THE "RECEIVED" STAMP OF THE PATENT AND TRADEMARK OFFICE  
IMPRINTED HEREON ACKNOWLEDGES THE FILING OF:**

**Description of Paper\* and No.:** Transmittal letter (1 page, in duplicate); Petition to Correct Filing Date Pursuant to 37 CFR 1.10 Correction of Filing Date (3 pages, in duplicate); Copy of Application Transmittal Letter (2 pages); Copy of Post Office Express Mail Receipt No. EL 683 634 742 US made prior to deposit (1 page); Copy of return receipt postcard made prior to deposit (1 page); Copy of return receipt postcard (stamped incorrectly by PTO) (1 page); Copy of Post Office Express Mail Receipt No. EL 683 634 742 US bearing the "date in" of December 21, 2000 (1 page); and this return acknowledgment postcard.

**Name of Applicants:** Kenneth Jacobs, *et al.*

**Intf. or Serial No.:** 09/745,763

**Attys:** AEM/DJM/EFW

**Date:** November 30, 2001

\*with Certificate of First Class Mailing





Customer Number: 000959

Attorney's  
Docket  
Number GIN-6046CP

Declaration, Petition and Power of Attorney for Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM**

the specification of which

(check one)

   is attached hereto.

X was filed on December 21, 2000 as

Application Serial No. 09/745,763

and was amended on \_\_\_\_\_  
(if applicable)

I do not know and do not believe that the subject matter of this application was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date of this application, or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date of this application on an application filed more than twelve months (six months if this application is for a design) before the filing of this application; and I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application, that no application for patent or inventor's certificate on the subject matter of this application has been filed by me or my representatives or assigns in any country foreign to the United States, except those identified below, and that I have reviewed and understand the contents of the specification, including the claims as amended by any amendment referred to herein.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

# CLAIM OF BENEFIT OF EARLIER FOREIGN APPLICATION(S)

I hereby claim priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below, and have also identified below any foreign application(s) for patent or inventor's certificate filed by me on the same subject matter having a filing date before that of the application(s) from which priority is claimed.

Check one:

☒ no such applications have been filed.

☐ such applications have been filed as follows

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED WITHIN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION

Country	Application Number	Date of Filing (month,day,year)	Priority Claimed Under 35 USC 119
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

ALL FOREIGN APPLICATION(S), IF ANY FILED MORE THAN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION


CLAIM FOR BENEFIT OF U.S. PROVISIONAL APPLICATION(S)

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

<u>60/082,310</u>	<u>March 19, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/084,191</u>	<u>March 21, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/093,042</u>	<u>March 25, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/080,228</u>	<u>March 28, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/084,198</u>	<u>April 15, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/082,311</u>	<u>April 25, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/090,098</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/090,107</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/088,356</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/086,244</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/092,113</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

60/090,097  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/090,108  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/086,238  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/088,365  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/093,050  
(Application Serial No.)

June 4, 1997  
(Filing Date)

# CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)

I hereby claim the benefit under Title 35, United States Code, §120 of any earlier United States application(s) or PCT international application(s) designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the earlier application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date(s) of the earlier application(s) and the national or PCT international filing date of this application. As to subject matter of this application which is common to my earlier application(s), if any, described below, I do not know and do not believe that the same was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date(s) of said earlier application(s), or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date(s) of said earlier application(s) on an application filed more than twelve months (six months if this application is for a design) before the filing of said earlier application(s); and I acknowledge that no application for patent or inventor's certificate on said subject matter has been filed by me or my representatives or assigns in any country foreign to the United States except those identified herein.

<u>09/040,963</u> (Application Serial No.)	<u>March 18, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/044,466</u> (Application Serial No.)	<u>March 19, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/046,881</u> (Application Serial No.)	<u>March 24, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/047,661</u> (Application Serial No.)	<u>March 25, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/059,487</u> (Application Serial No.)	<u>April 13, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)

09/065,125  
(Application Serial No.)

April 23, 1998  
(Filing Date)

pending  
(Status)  
(patented,pending,aband.)

09/087,255  
(Application Serial No.)

May 29, 1998  
(Filing Date)

pending  
(Status)  
(patented,pending,aband.)

                      
(Application Serial No.)

                      
(Filing Date)

                      
(Status)  
(patented,pending,aband.)



POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

James E. Cockfield	Reg. No. 19,162	Peter C. Lauro	Reg. No. 32,360
Thomas V. Smurzynski	Reg. No. 24,798	DeAnn F. Smith	Reg. No. 36,683
Ralph A. Loren	Reg. No. 29,325	William D. DeVaul	Reg. No. 42,483
Giulio A. DeConti, Jr.	Reg. No. 31,503	David J. Rikkers	Reg. No. 43,882
Ann Lamport Hammitte	Reg. No. 34,858	Chi Suk Kim	Reg. No. 42,728
Elizabeth A. Hanley	Reg. No. 33,505	Maria Laccotripe Zacharakis	Limited Recognition Under 37 C.F.R. § 10.9(b)
Amy E. Mandragouras	Reg. No. 36,207		
Anthony A. Laurentano	Reg. No. 38,220	Debra J. Milasincic	Reg. No. 46,931
Jane E. Remillard	Reg. No. 38,872	David R. Burns	Reg. No. 46,590
Jeremiah Lynch	Reg. No. 17,425	Sean D. Detweiler	Reg. No. 42,482
Kevin J. Canning	Reg. No. 35,470	Peter S. Stecher	Reg. No. 47,259
Jeanne M. DiGiorgio	Reg. No. 41,710	Adam M. Goodmann	Reg. No. 43,640
Megan E. Williams	Reg. No. 43,270	Cynthia L. Kanik	Reg. No. 37,320
Nicholas P. Triano III	Reg. No. 36,397		

of LAHIVE & COCKFIELD, LLP, 28 State Street, Boston, Massachusetts 02109, United States of America, and

Ellen J. Kapinos	Reg. No. 32,245	Andrea Ryan	Reg. No. 28,469
Barbara A. Gyure	Reg. No. 34,614	Elizabeth A. Hurley	Reg. No. 41,859

of 87 CambridgePark Drive, Cambridge, Massachusetts 02140, United States of America,

Egon E. Berg	Reg. No. 21,117	Elizabeth M. Barnhard	Reg. No. 31,088
Gale F. Matthews	Reg. No. 32,269	Alan M. Gordon	Reg. No. 30,637
Darryl L. Webster	Reg. No. 34,276		

of One Campus Drive, Parsippany, New Jersey 07054, United States of America, and

Rebecca R. Barrett	Reg. No. 35,152	Steven R. Eck	Reg. No. 36,126
Arnold S. Milowsky	Reg. No. 35,288	Michael R. Nagy	Reg. No. 33,432
George Tarnowski	Reg. No. 27,472		

of P.O. Box 8299, Philadelphia, Pennsylvania 19101, United States of America.

Send Correspondence to Amy E. Mandragouras at **Customer Number: 000959** whose address is:

Lahive & Cockfield, LLP, 28 State Street, Boston, MA 02109

Direct Telephone Calls to: Amy E. Mandragouras, (617) 227-7400

Wherefore I petition that letters patent be granted to me for the invention or discovery described and claimed in the attached specification and claims, and hereby subscribe my name to said specification and claims and to the foregoing declaration, power of attorney, and this petition.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that

such willful false statements may jeopardize the validity of the application or any patent issued thereon.

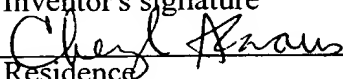
Full name of sole or first inventor Kenneth Jacobs	
Inventor's signature	Date
Residence 151 Beaumont Avenue, Newton, MA 02460	
Citizenship United States	
Post Office Address (if different)	

Full name of second inventor, if any John M. McCoy	
Inventor's signature	Date
Residence 56 Howard Street, Reading, MA 01867	
Citizenship Great Britain	
Post Office Address (if different)	

Full name of third inventor, if any Edward R. LaVallie	
Inventor's signature	Date
Residence 113 Ann Lee Road, Harvard, MA 01452	
Citizenship USA	
Post Office Address (if different)	

Full name of fourth inventor, if any Lisa A. Collins-Racie	
Inventor's signature	Date
Residence 124 School Street, Acton, MA 01720	
Citizenship USA	

Post Office Address (if different)
------------------------------------

Full name of fifth inventor, if any Cheryl Evans	
Inventor's signature 	Date 3/29/01
Residence 19236 Golden Meadow Drive, Germantown, MD 20876	
Citizenship United Kingdom	
Post Office Address (if different)	

Full name of sixth inventor, if any David Merberg	
Inventor's signature	Date
Residence 2 Orchard Drive, Acton, MA 01720	
Citizenship USA	
Post Office Address (if different)	

Full name of seventh inventor, if any Maurie Treacy	
Inventor's signature	Date
Residence 38 Clarinda Park East, Dun Laoghaire, County Dublin, Ireland.	
Citizenship Ireland	
Post Office Address (if different)	

Full name of eighth inventor, if any Vikki Spaulding	
Inventor's signature	Date
Residence 47C Beatrice Street, Danville, NH	
Citizenship USA	
Post Office Address (if different) P.O. Box 1243 E. Hampstead, NH 03826	



Customer Number: 000959

Attorney's  
Docket  
Number GIN-6046CP

Declaration, Petition and Power of Attorney for Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM**

the specification of which

(check one)

   is attached hereto.

X was filed on December 21, 2000 as

Application Serial No. 09/745,763

and was amended on \_\_\_\_\_  
(if applicable)

I do not know and do not believe that the subject matter of this application was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date of this application, or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date of this application on an application filed more than twelve months (six months if this application is for a design) before the filing of this application; and I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application, that no application for patent or inventor's certificate on the subject matter of this application has been filed by me or my representatives or assigns in any country foreign to the United States, except those identified below, and that I have reviewed and understand the contents of the specification, including the claims as amended by any amendment referred to herein.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

### CLAIM OF BENEFIT OF EARLIER FOREIGN APPLICATION(S)

I hereby claim priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below, and have also identified below any foreign application(s) for patent or inventor's certificate filed by me on the same subject matter having a filing date before that of the application(s) from which priority is claimed.

Check one:

☒ no such applications have been filed.

☐ such applications have been filed as follows

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED WITHIN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION

Country	Application Number	Date of Filing (month,day,year)	Priority Claimed Under 35 USC 119
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

ALL FOREIGN APPLICATION(S), IF ANY FILED MORE THAN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION


CLAIM FOR BENEFIT OF U.S. PROVISIONAL APPLICATION(S)

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

<u>60/082,310</u> (Application Serial No.)	<u>March 19, 1997</u> (Filing Date)
<u>60/084,191</u> (Application Serial No.)	<u>March 21, 1997</u> (Filing Date)
<u>60/093,042</u> (Application Serial No.)	<u>March 25, 1997</u> (Filing Date)
<u>60/080,228</u> (Application Serial No.)	<u>March 28, 1997</u> (Filing Date)
<u>60/084,198</u> (Application Serial No.)	<u>April 15, 1997</u> (Filing Date)
<u>60/082,311</u> (Application Serial No.)	<u>April 25, 1997</u> (Filing Date)
<u>60/090,098</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)
<u>60/090,107</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)
<u>60/088,356</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)
<u>60/086,244</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)
<u>60/092,113</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)

60/090,097  
(Application Serial No.)

June 4, 1997  
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60/090,108  
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60/086,238  
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(Filing Date)

60/088,365  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/093,050  
(Application Serial No.)

June 4, 1997  
(Filing Date)

# CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)

I hereby claim the benefit under Title 35, United States Code, §120 of any earlier United States application(s) or PCT international application(s) designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the earlier application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date(s) of the earlier application(s) and the national or PCT international filing date of this application. As to subject matter of this application which is common to my earlier application(s), if any, described below, I do not know and do not believe that the same was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date(s) of said earlier application(s), or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date(s) of said earlier application(s) on an application filed more than twelve months (six months if this application is for a design) before the filing of said earlier application(s); and I acknowledge that no application for patent or inventor's certificate on said subject matter has been filed by me or my representatives or assigns in any country foreign to the United States except those identified herein.

<u>09/040,963</u> (Application Serial No.)	<u>March 18, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/044,466</u> (Application Serial No.)	<u>March 19, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
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<u>09/059,487</u> (Application Serial No.)	<u>April 13, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)



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May 29, 1998  
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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

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Elizabeth A. Hanley	Reg. No. 33,505	Maria Laccotripe Zacharakis	Limited Recognition Under 37 C.F.R. § 10.9(b)
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Anthony A. Laurentano	Reg. No. 38,220	David R. Burns	Reg. No. 46,590
Jane E. Remillard	Reg. No. 38,872	Sean D. Detweiler	Reg. No. 42,482
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Kevin J. Canning	Reg. No. 35,470	Adam M. Goodmann	Reg. No. 43,640
Jeanne M. DiGiorgio	Reg. No. 41,710	Cynthia L. Kanik	Reg. No. 37,320
Megan E. Williams	Reg. No. 43,270		
Nicholas P. Triano III	Reg. No. 36,397		

of LAHIVE & COCKFIELD, LLP, 28 State Street, Boston, Massachusetts 02109, United States of America, and

Ellen J. Kapinos	Reg. No. 32,245	Andrea Ryan	Reg. No. 28,469
Barbara A. Gyure	Reg. No. 34,614	Elizabeth A. Hurley	Reg. No. 41,859

of 87 CambridgePark Drive, Cambridge, Massachusetts 02140, United States of America,

Egon E. Berg	Reg. No. 21,117	Elizabeth M. Barnhard	Reg. No. 31,088
Gale F. Matthews	Reg. No. 32,269	Alan M. Gordon	Reg. No. 30,637
Darryl L. Webster	Reg. No. 34,276		

of One Campus Drive, Parsippany, New Jersey 07054, United States of America, and

Rebecca R. Barrett	Reg. No. 35,152	Steven R. Eck	Reg. No. 36,126
Arnold S. Milowsky	Reg. No. 35,288	Michael R. Nagy	Reg. No. 33,432
George Tamowski	Reg. No. 27,472		

of P.O. Box 8299, Philadelphia, Pennsylvania 19101, United States of America.

Send Correspondence to Amy E. Mandragouras at **Customer Number: 000959** whose address is:

Lahive & Cockfield, LLP, 28 State Street, Boston, MA 02109

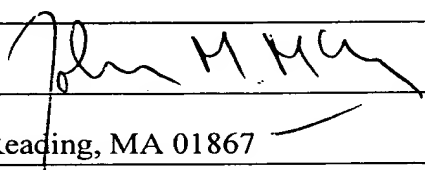
Direct Telephone Calls to: Amy E. Mandragouras, (617) 227-7400

Wherefore I petition that letters patent be granted to me for the invention or discovery described and claimed in the attached specification and claims, and hereby subscribe my name to said specification and claims and to the foregoing declaration, power of attorney, and this petition.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that

such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Kenneth Jacobs	
Inventor's signature	Date
Residence 151 Beaumont Avenue, Newton, MA 02460	
Citizenship United States	
Post Office Address (if different)	

Full name of second inventor, if any John M. McCoy	
Inventor's signature 	Date 3/29/01
Residence 56 Howard Street, Reading, MA 01867	
Citizenship Great Britain	
Post Office Address (if different)	

Full name of third inventor, if any Edward R. LaVallie	
Inventor's signature	Date
Residence 113 Ann Lee Road, Harvard, MA 01452	
Citizenship USA	
Post Office Address (if different)	

Full name of fourth inventor, if any Lisa A. Collins-Racie	
Inventor's signature	Date
Residence 124 School Street, Acton, MA 01720	
Citizenship USA	

Post Office Address (if different)
------------------------------------

Full name of fifth inventor, if any Cheryl Evans	
Inventor's signature	Date
Residence 19236 Golden Meadow Drive, Germantown, MD 20876	
Citizenship United Kingdom	
Post Office Address (if different)	

Full name of sixth inventor, if any David Merberg	
Inventor's signature	Date
Residence 2 Orchard Drive, Acton, MA 01720	
Citizenship USA	
Post Office Address (if different)	

Full name of seventh inventor, if any Maurie Treacy	
Inventor's signature	Date
Residence 38 Clarinda Park East, Dun Laoghaire, County Dublin, Ireland.	
Citizenship Ireland	
Post Office Address (if different)	

Full name of eighth inventor, if any Vikki Spaulding	
Inventor's signature	Date
Residence 47C Beatrice Street, Danville, NH	
Citizenship USA	
Post Office Address (if different) P.O. Box 1243 E. Hampstead, NH 03826	



Customer Number: 000959

Attorney's  
Docket  
Number GIN-6046CP

Declaration, Petition and Power of Attorney for Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM**

the specification of which

(check one)

   is attached hereto.

X was filed on December 21, 2000 as

Application Serial No. 09/745,763

and was amended on \_\_\_\_\_  
(if applicable)

I do not know and do not believe that the subject matter of this application was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date of this application, or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date of this application on an application filed more than twelve months (six months if this application is for a design) before the filing of this application; and I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application, that no application for patent or inventor's certificate on the subject matter of this application has been filed by me or my representatives or assigns in any country foreign to the United States, except those identified below, and that I have reviewed and understand the contents of the specification, including the claims as amended by any amendment referred to herein.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

# CLAIM OF BENEFIT OF EARLIER FOREIGN APPLICATION(S)

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Check one:

☒ no such applications have been filed.

☐ such applications have been filed as follows

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED WITHIN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION

Country	Application Number	Date of Filing (month,day,year)	Priority Claimed Under 35 USC 119
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

ALL FOREIGN APPLICATION(S), IF ANY FILED MORE THAN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION


60/090,097  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/090,108  
(Application Serial No.)

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(Application Serial No.)

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# CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)

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<u>09/040,963</u> (Application Serial No.)	<u>March 18, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/044,466</u> (Application Serial No.)	<u>March 19, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/046,881</u> (Application Serial No.)	<u>March 24, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/047,661</u> (Application Serial No.)	<u>March 25, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/059,487</u> (Application Serial No.)	<u>April 13, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)



09/065,125  
(Application Serial No.)

April 23, 1998  
(Filing Date)

pending  
(Status)  
(patented,pending,aband.)

09/087,255  
(Application Serial No.)

May 29, 1998  
(Filing Date)

pending  
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(Filing Date)

                      
(Status)  
(patented,pending,aband.)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

James E. Cockfield	Reg. No. 19,162	Peter C. Lauro	Reg. No. 32,360
Thomas V. Smurzynski	Reg. No. 24,798	DeAnn F. Smith	Reg. No. 36,683
Ralph A. Loren	Reg. No. 29,325	William D. DeVaul	Reg. No. 42,483
Giulio A. DeConti, Jr.	Reg. No. 31,503	David J. Ridders	Reg. No. 43,882
Ann Lamport Hammitte	Reg. No. 34,858	Chi Suk Kim	Reg. No. 42,728
Elizabeth A. Hanley	Reg. No. 33,505	Maria Laccotripe Zacharakis	Limited Recognition Under 37 C.F.R. § 10.9(b)
Amy E. Mandragouras	Reg. No. 36,207	Debra J. Milasincic	Reg. No. 46,931
Anthony A. Laurentano	Reg. No. 38,220	David R. Burns	Reg. No. 46,590
Jane E. Remillard	Reg. No. 38,872	Sean D. Detweiler	Reg. No. 42,482
Jeremiah Lynch	Reg. No. 17,425	Peter S. Stecher	Reg. No. 47,259
Kevin J. Canning	Reg. No. 35,470	Adam M. Goodmann	Reg. No. 43,640
Jeanne M. DiGiorgio	Reg. No. 41,710	Cynthia L. Kanik	Reg. No. 37,320
Megan E. Williams	Reg. No. 43,270		
Nicholas P. Triano III	Reg. No. 36,397		

of LAHIVE & COCKFIELD, LLP, 28 State Street, Boston, Massachusetts 02109, United States of America, and

Ellen J. Kapinos	Reg. No. 32,245	Andrea Ryan	Reg. No. 28,469
Barbara A. Gyure	Reg. No. 34,614	Elizabeth A. Hurley	Reg. No. 41,859

of 87 CambridgePark Drive, Cambridge, Massachusetts 02140, United States of America,

Egon E. Berg	Reg. No. 21,117	Elizabeth M. Barnhard	Reg. No. 31,088
Gale F. Matthews	Reg. No. 32,269	Alan M. Gordon	Reg. No. 30,637
Darryl L. Webster	Reg. No. 34,276		

of One Campus Drive, Parsippany, New Jersey 07054, United States of America, and

Rebecca R. Barrett	Reg. No. 35,152	Steven R. Eck	Reg. No. 36,126
Arnold S. Milowsky	Reg. No. 35,288	Michael R. Nagy	Reg. No. 33,432
George Tamowski	Reg. No. 27,472		

of P.O. Box 8299, Philadelphia, Pennsylvania 19101, United States of America.

Send Correspondence to Amy E. Mandragouras at **Customer Number: 000959** whose address is:

Lahive & Cockfield, LLP, 28 State Street, Boston, MA 02109

Direct Telephone Calls to: Amy E. Mandragouras, (617) 227-7400

Wherefore I petition that letters patent be granted to me for the invention or discovery described and claimed in the attached specification and claims, and hereby subscribe my name to said specification and claims and to the foregoing declaration, power of attorney, and this petition.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that

such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Kenneth Jacobs	
Inventor's signature	Date
Residence 151 Beaumont Avenue, Newton, MA 02460	
Citizenship United States	
Post Office Address (if different)	

Full name of second inventor, if any John M. McCoy	
Inventor's signature	Date
Residence 56 Howard Street, Reading, MA 01867	
Citizenship Great Britain	
Post Office Address (if different)	

Full name of third inventor, if any Edward R. LaVallie	
Inventor's signature	Date
Residence 113 Ann Lee Road, Harvard, MA 01452	
Citizenship USA	
Post Office Address (if different)	

Full name of fourth inventor, if any Lisa A. Collins-Racie	
Inventor's signature	Date
Residence 124 School Street, Acton, MA 01720	
Citizenship USA	

Post Office Address (if different)

Full name of fifth inventor, if any

Cheryl Evans

Inventor's signature

Date

Residence

19236 Golden Meadow Drive, Germantown, MD 20876

Citizenship

United Kingdom

Post Office Address (if different)

Full name of sixth inventor, if any

David Merberg

Inventor's signature

Date

Residence

2 Orchard Drive, Acton, MA 01720

Citizenship

USA

Post Office Address (if different)

Full name of seventh inventor, if any

Maurie Treacy

Inventor's signature

Date

Residence

38 Clarinda Park East, Dun Laoghaire, County Dublin, Ireland.

Citizenship

Ireland

Post Office Address (if different)

Full name of eighth inventor, if any

Vikki Spaulding

Inventor's signature

Date

Residence

47C Beatrice Street, Danville, NH

Citizenship

USA

Post Office Address (if different)

P.O. Box 1243 E. Hampstead, NH 03826



Customer Number: 000959

Attorney's  
Docket  
Number GIN-6046CP

Declaration, Petition and Power of Attorney for Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM**

the specification of which

(check one)

   is attached hereto.

X was filed on December 21, 2000 as

Application Serial No. 09/745,763

and was amended on \_\_\_\_\_  
(if applicable)

I do not know and do not believe that the subject matter of this application was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date of this application, or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date of this application on an application filed more than twelve months (six months if this application is for a design) before the filing of this application; and I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application, that no application for patent or inventor's certificate on the subject matter of this application has been filed by me or my representatives or assigns in any country foreign to the United States, except those identified below, and that I have reviewed and understand the contents of the specification, including the claims as amended by any amendment referred to herein.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

# CLAIM OF BENEFIT OF EARLIER FOREIGN APPLICATION(S)

I hereby claim priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below, and have also identified below any foreign application(s) for patent or inventor's certificate filed by me on the same subject matter having a filing date before that of the application(s) from which priority is claimed.

Check one:

☒ no such applications have been filed.

☐ such applications have been filed as follows

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED WITHIN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION

Country	Application Number	Date of Filing (month,day,year)	Priority Claimed Under 35 USC 119
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

ALL FOREIGN APPLICATION(S), IF ANY FILED MORE THAN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION


CLAIM FOR BENEFIT OF U.S. PROVISIONAL APPLICATION(S)

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

<u>60/082,310</u>	<u>March 19, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/084,191</u>	<u>March 21, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/093,042</u>	<u>March 25, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/080,228</u>	<u>March 28, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/084,198</u>	<u>April 15, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/082,311</u>	<u>April 25, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/090,098</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/090,107</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/088,356</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/086,244</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)

<u>60/092,113</u>	<u>June 4, 1997</u>
(Application Serial No.)	(Filing Date)



60/090,097  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/090,108  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/086,238  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/088,365  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/093,050  
(Application Serial No.)

June 4, 1997  
(Filing Date)

# CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)

I hereby claim the benefit under Title 35, United States Code, §120 of any earlier United States application(s) or PCT international application(s) designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the earlier application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date(s) of the earlier application(s) and the national or PCT international filing date of this application. As to subject matter of this application which is common to my earlier application(s), if any, described below, I do not know and do not believe that the same was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date(s) of said earlier application(s), or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date(s) of said earlier application(s) on an application filed more than twelve months (six months if this application is for a design) before the filing of said earlier application(s); and I acknowledge that no application for patent or inventor's certificate on said subject matter has been filed by me or my representatives or assigns in any country foreign to the United States except those identified herein.

<u>09/040,963</u> (Application Serial No.)	<u>March 18, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/044,466</u> (Application Serial No.)	<u>March 19, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/046,881</u> (Application Serial No.)	<u>March 24, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/047,661</u> (Application Serial No.)	<u>March 25, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/059,487</u> (Application Serial No.)	<u>April 13, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)

09/065,125  
(Application Serial No.)

April 23, 1998  
(Filing Date)

pending  
(Status)  
(patented,pending,aband.)

09/087,255  
(Application Serial No.)

May 29, 1998  
(Filing Date)

pending  
(Status)  
(patented,pending,aband.)

                      
(Application Serial No.)

                      
(Filing Date)

                      
(Status)  
(patented,pending,aband.)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

James E. Cockfield	Reg. No. 19,162	Peter C. Lauro	Reg. No. 32,360
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Ann Lamport Hammitte	Reg. No. 34,858	Chi Suk Kim	Reg. No. 42,728
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Jeremiah Lynch	Reg. No. 17,425	Peter S. Stecher	Reg. No. 47,259
Kevin J. Canning	Reg. No. 35,470	Adam M. Goodman	Reg. No. 43,640
Jeanne M. DiGiorgio	Reg. No. 41,710	Cynthia L. Kanik	Reg. No. 37,320
Megan E. Williams	Reg. No. 43,270		
Nicholas P. Triano III	Reg. No. 36,397		

of LAHIVE & COCKFIELD, LLP, 28 State Street, Boston, Massachusetts 02109, United States of America, and

Ellen J. Kapinos	Reg. No. 32,245	Andrea Ryan	Reg. No. 28,469
Barbara A. Gyure	Reg. No. 34,614	Elizabeth A. Hurley	Reg. No. 41,859

of 87 CambridgePark Drive, Cambridge, Massachusetts 02140, United States of America,

Egon E. Berg	Reg. No. 21,117	Elizabeth M. Barnhard	Reg. No. 31,088
Gale F. Matthews	Reg. No. 32,269	Alan M. Gordon	Reg. No. 30,637
Darryl L. Webster	Reg. No. 34,276		

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Rebecca R. Barrett	Reg. No. 35,152	Steven R. Eck	Reg. No. 36,126
Arnold S. Milowsky	Reg. No. 35,288	Michael R. Nagy	Reg. No. 33,432
George Tamowski	Reg. No. 27,472		

of P.O. Box 8299, Philadelphia, Pennsylvania 19101, United States of America.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that

such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Kenneth Jacobs	
Inventor's signature	Date
Residence 151 Beaumont Avenue, Newton, MA 02460	
Citizenship United States	
Post Office Address (if different)	

Full name of second inventor, if any John M. McCoy	
Inventor's signature	Date
Residence 56 Howard Street, Reading, MA 01867	
Citizenship Great Britain	
Post Office Address (if different)	

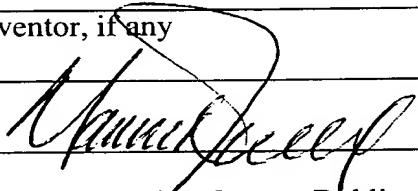
Full name of third inventor, if any Edward R. LaVallie	
Inventor's signature	Date
Residence 113 Ann Lee Road, Harvard, MA 01452	
Citizenship USA	
Post Office Address (if different)	

Full name of fourth inventor, if any Lisa A. Collins-Racie	
Inventor's signature	Date
Residence 124 School Street, Acton, MA 01720	
Citizenship USA	

Post Office Address (if different)
------------------------------------

Full name of fifth inventor, if any Cheryl Evans	
Inventor's signature	Date
Residence 19236 Golden Meadow Drive, Germantown, MD 20876	
Citizenship United Kingdom	
Post Office Address (if different)	

Full name of sixth inventor, if any David Merberg	
Inventor's signature	Date
Residence 2 Orchard Drive, Acton, MA 01720	
Citizenship USA	
Post Office Address (if different)	

Full name of seventh inventor, if any Maurie Treacy	
Inventor's signature 	Date 9 May 2001
Residence 38 Clarinda Park East, Dun Laoghaire, County Dublin, Ireland.	
Citizenship Ireland	
Post Office Address (if different)	

Full name of eighth inventor, if any Vikki Spaulding	
Inventor's signature	Date
Residence 47C Beatrice Street, Danville, NH	
Citizenship USA	
Post Office Address (if different) P.O. Box 1243 E. Hampstead, NH 03826	



Customer Number: 000959

Attorney's  
Docket  
Number GIN-6046CP

Declaration, Petition and Power of Attorney for Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM**

the specification of which

(check one)

   is attached hereto.

X was filed on December 21, 2000 as

Application Serial No. 09/745,763

and was amended on \_\_\_\_\_  
(if applicable)

I do not know and do not believe that the subject matter of this application was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date of this application, or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date of this application on an application filed more than twelve months (six months if this application is for a design) before the filing of this application; and I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application, that no application for patent or inventor's certificate on the subject matter of this application has been filed by me or my representatives or assigns in any country foreign to the United States, except those identified below, and that I have reviewed and understand the contents of the specification, including the claims as amended by any amendment referred to herein.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.



## CLAIM OF BENEFIT OF EARLIER FOREIGN APPLICATION(S)

I hereby claim priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below, and have also identified below any foreign application(s) for patent or inventor's certificate filed by me on the same subject matter having a filing date before that of the application(s) from which priority is claimed.

Check one:

☒ no such applications have been filed.

☐ such applications have been filed as follows

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED WITHIN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION

Country	Application Number	Date of Filing (month,day,year)	Priority Claimed Under 35 USC 119
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

ALL FOREIGN APPLICATION(S), IF ANY FILED MORE THAN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION


CLAIM FOR BENEFIT OF U.S. PROVISIONAL APPLICATION(S)

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

<u>60/082,310</u> (Application Serial No.)	<u>March 19, 1997</u> (Filing Date)
<u>60/084,191</u> (Application Serial No.)	<u>March 21, 1997</u> (Filing Date)
<u>60/093,042</u> (Application Serial No.)	<u>March 25, 1997</u> (Filing Date)
<u>60/080,228</u> (Application Serial No.)	<u>March 28, 1997</u> (Filing Date)
<u>60/084,198</u> (Application Serial No.)	<u>April 15, 1997</u> (Filing Date)
<u>60/082,311</u> (Application Serial No.)	<u>April 25, 1997</u> (Filing Date)
<u>60/090,098</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)
<u>60/090,107</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)
<u>60/088,356</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)
<u>60/086,244</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)
<u>60/092,113</u> (Application Serial No.)	<u>June 4, 1997</u> (Filing Date)

60/090,097  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/090,108  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/086,238  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/088,365  
(Application Serial No.)

June 4, 1997  
(Filing Date)

60/093,050  
(Application Serial No.)

June 4, 1997  
(Filing Date)

# CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)

I hereby claim the benefit under Title 35, United States Code, §120 of any earlier United States application(s) or PCT international application(s) designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the earlier application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date(s) of the earlier application(s) and the national or PCT international filing date of this application. As to subject matter of this application which is common to my earlier application(s), if any, described below, I do not know and do not believe that the same was known or used by others in the United States or patented or described in a printed publication in any country before my invention thereof, or patented or described in a printed publication in any country or in public use or on sale in the United States more than one year prior to the date(s) of said earlier application(s), or first patented or caused to be patented or made the subject of an inventor's certificate by me or my legal representatives or assigns in a country foreign to the United States prior to the date(s) of said earlier application(s) on an application filed more than twelve months (six months if this application is for a design) before the filing of said earlier application(s); and I acknowledge that no application for patent or inventor's certificate on said subject matter has been filed by me or my representatives or assigns in any country foreign to the United States except those identified herein.

<u>09/040,963</u> (Application Serial No.)	<u>March 18, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
<u>09/044,466</u> (Application Serial No.)	<u>March 19, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)
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<u>09/059,487</u> (Application Serial No.)	<u>April 13, 1998</u> (Filing Date)	<u>pending</u> (Status) (patented,pending,aband.)

09/065,125  
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April 23, 1998  
(Filing Date)

pending  
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09/087,255  
(Application Serial No.)

May 29, 1998  
(Filing Date)

pending  
(Status)  
(patented,pending,aband.)

                      
(Application Serial No.)

                      
(Filing Date)

                      
(Status)  
(patented,pending,aband.)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

James E. Cockfield	Reg. No. 19,162	Peter C. Lauro	Reg. No. 32,360
Thomas V. Smurzynski	Reg. No. 24,798	DeAnn F. Smith	Reg. No. 36,683
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Elizabeth A. Hanley	Reg. No. 33,505	Maria Laccotripe Zacharakis	Limited Recognition Under 37 C.F.R. § 10.9(b)
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Megan E. Williams	Reg. No. 43,270		
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Darryl L. Webster	Reg. No. 34,276		

of One Campus Drive, Parsippany, New Jersey 07054, United States of America, and

Rebecca R. Barrett	Reg. No. 35,152	Steven R. Eck	Reg. No. 36,126
Arnold S. Milowsky	Reg. No. 35,288	Michael R. Nagy	Reg. No. 33,432
George Tarnowski	Reg. No. 27,472		

of P.O. Box 8299, Philadelphia, Pennsylvania 19101, United States of America.

Send Correspondence to Amy E. Mandragouras at **Customer Number: 000959** whose address is:

Lahive & Cockfield, LLP, 28 State Street, Boston, MA 02109

Direct Telephone Calls to: Amy E. Mandragouras, (617) 227-7400

Wherefore I petition that letters patent be granted to me for the invention or discovery described and claimed in the attached specification and claims, and hereby subscribe my name to said specification and claims and to the foregoing declaration, power of attorney, and this petition.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that

such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Kenneth Jacobs	
Inventor's signature <i>Kenneth Jacobs</i>	Date 4/2/01
Residence 151 Beaumont Avenue, Newton, MA 02460	
Citizenship United States	
Post Office Address (if different)	

Full name of second inventor, if any John M. McCoy	
Inventor's signature	Date
Residence 56 Howard Street, Reading, MA 01867	
Citizenship Great Britain	
Post Office Address (if different)	

Full name of third inventor, if any Edward R. LaVallie	
Inventor's signature <i>Edward R. LaVallie</i>	Date 4/2/01
Residence 113 Ann Lee Road, Harvard, MA 01452	
Citizenship USA	
Post Office Address (if different)	

Full name of fourth inventor, if any Lisa A. Collins-Racie	
Inventor's signature <i>Lisa A. Collins - Racie</i>	Date 4/2/01
Residence 124 School Street, Acton, MA 01720	
Citizenship USA	

Post Office Address (if different)
------------------------------------

Full name of fifth inventor, if any . Cheryl Evans	
Inventor's signature	Date
Residence 19236 Golden Meadow Drive, Germantown, MD 20876	
Citizenship United Kingdom	
Post Office Address (if different)	

Full name of sixth inventor, if any David Merberg	
Inventor's signature	Date
Residence 2 Orchard Drive, Acton, MA 01720	
Citizenship USA	
Post Office Address (if different)	

Full name of seventh inventor, if any Maurie Treacy	
Inventor's signature	Date
Residence 38 Clarinda Park East, Dun Laoghaire, County Dublin, Ireland.	
Citizenship Ireland	
Post Office Address (if different)	

Full name of eighth inventor, if any . Vikki Spaulding	
Inventor's signature <i>Vikki Spaulding</i>	Date <i>4/2/01</i>
Residence <i>295 Pawtucket Blvd #14 , Lowell, MA 01854</i> <del>47C Beatriee Street, Danville, NH</del>	
Citizenship USA	
Post Office Address (if different) <del>P.O. Box 1243 E. Hampstead, NH 03826</del>	